Product BT-4650
Revision Date 01/05/2015
Revision 1

Safety Data Sheet

SECTION 1: IDENTIFICATION

Product Name BT-4650
Identifier Uses Condensate Treatment.

Supplier
Clear Water Technologies, LLC
13560 Colombard Court
Fontana, California 92337
Tel: 844.429.8324

Contact Person info@clearwatertech.com
Emergency Telephone 24-HOUR EMERGENCY TELEPHONE: INFOTRAC: 1-800-535-5053
INTERNATIONAL#: 1-352-323-3500

SECTION 2: HAZARDS IDENTIFICATION

Appearance Clear, colorless to yellow liquid.
Color Colorless
Odor Ammonia

Pictogram(s)

Signal Word Danger

Hazard Statements
H226 Flammable liquid and vapor.
H302 Harmful if swallowed.
H312 Harmful in contact with skin
H314 Causes severe skin burns and eye damage
H361f Suspected of damaging fertility.
H335 May cause respiratory irritation.

Precautionary Statements
P260 Do not breathe dust/fume/gas/mist/vapors/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/ shower
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat/ sparks/open flames/hot surfaces. — No smoking.

Contains
Cyclohexylamine
Morpholine
2-diethylaminoethanol N,N-diethylethanolamine

GHS Classification

Physical and Chemical Hazards	Flam. Liq 3- H226
Human Health	Acute Tox 4 -H302, Acute Tox 4 - H312, Skin Corr. 1B - H314, Repr. 2 - H361f, STOT SE 3 - H335
Environment	Not classified

OSHA Regulatory Status This Product is Hazardous under the OSHA Hazard Communication Standard.
Inhalation Inhalation of high concentrations of vapors may cause irritation of the respiratory tract with sore throat, coughing, shortness of breath, possible chest pain.
Ingestion Do not ingest. Exposure to liquid product may cause moderate to severe irritation to inner

	linings of mouth, esophagus and gastrointestinal tract, and possible burns. Symptoms of exposure may include nausea, vomiting, diarrhea, dizziness, drowsiness, thirst, faintness, weakness or circulatory collapse. The product is moderately toxic.
Skin contact	Corrosive! Can cause redness, pain, and severe skin burns.
Eye contact	Extreme irritation of eyes and mucous membranes, including burning and tearing. Causes serious eye damage. Causes severe eye burns.
Routes of Exposure	No Information available.

SECTION 3: Composition/Information on Ingredients

Composition Comments

Confidential business information has been removed without affecting the overall safety information on the safety data sheet.

SECTION 4: FIRST AID MEASURES

Description of first aid measures

General Information

Inhalation	If this product is inhaled, move the exposed person to fresh air promptly. Seek medical attention if symptoms persist. Give artificial respiration if the exposed person is not breathing.
Ingestion	If the product is ingested, seek medical attention immediately. Do NOT give the exposed person anything to drink. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.
Skin contact	If this product contacts the skin, immediately flush the affected area with plenty of clean running water for at least fifteen (15) minutes. If the product penetrates the clothing, promptly remove the contaminated clothing or shoes, and flush the affected area as described. Seek medical attention if irritation persists.
Eye contact	If the product contacts the eyes, immediately flush eyes with plenty of clean running water for at least fifteen (15) minutes, lifting the upper and lower eyelids occasionally. Remove contact lenses if worn. Seek medical attention if irritation persists.

Most important symptoms and effects, both acute and delayed

General Information

Inhalation	Inhalation of high concentrations of vapors may cause irritation of the respiratory tract with sore throat, coughing, shortness of breath, possible chest pain.
Ingestion	Do not ingest. Exposure to liquid product may cause moderate to severe irritation to inner linings of mouth, esophagus and gastrointestinal tract, and possible burns. Symptoms of exposure may include nausea, vomiting, diarrhea, dizziness, drowsiness, thirst, faintness, weakness or circulatory collapse. The product is moderately toxic.
Skin contact	Corrosive! Can cause redness, pain, and severe skin burns.
Eye contact	Extreme irritation of eyes and mucous membranes, including burning and tearing. Causes serious eye damage. Causes severe eye burns.
Routes of Exposure	No Information available.

Most important symptoms and effects, both acute and delayed

Notes To The Physician	There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

SECTION 5: Firefighting Measures

Auto Ignition Temperature (°C)	No Information available
Flammability Limit - Lower (%)	No Information available
Flammability Limit - Upper (%)	No Information available
Flash point	No Information available
Extinguishing Media	Use fire-extinguishing media appropriate for surrounding materials. Water, foam, dry Chemical or carbon dioxide.
Hazardous combustion products	Combustion may lead to the release of oxides of nitrogen, ammonia and carbon monoxide.
Unusual Fire & Explosion Hazards	Irritating vapors may be emitted during a fire.
Special Fire Fighting Procedures	Use water to cool containers exposed to a fire.

Protective equipment for fire- fighters Wear full protective equipment, including butyl rubber boots, gloves, body suit and self-contained breathing apparatus.

SECTION 6: Accidental Release Measures

Personal Precautions For personal protection, see section 8.Eliminate all sources of ignition .In case of spills, beware of slippery floors and surfaces.

Environmental Precautions Keep out of drains, municipal sewers, open bodies of water and water course.

Spill Clean Up Methods Restrict non-essential personnel from the area. Stop leak if possible without risk. Absorb in vermiculite, dry sand or earth and place into containers. Flush with plenty of water to clean spillage area. Do not contaminate water sources or sewer. Place into chemical waste container for disposal according to local, state or federal regulations. Neutralize residue with lime or soda ash and flush spill area. DO NOT TOUCH SPILLED MATERIAL! Wash thoroughly after dealing with a spillage.

SECTION 7: Handling and Storage

Handling Use proper personal protection when handling. Provide good ventilation. Avoid contact with eyes and clothing. Do not use contact lenses. Avoid inhalation of vapors and mists. Avoid prolonged or repeated contact. Do NOT ingest. Wash thoroughly after handling. Rinse container before disposal. Eliminate all sources of ignition.

Usage Description Store closed containers in a cool, dry, well-ventilated area away from incompatible materials. Store in an area designated for flammable liquids. This product is stable under normal conditions of handling and storage.

Storage Precautions Store closed containers in a cool, dry, well-ventilated area away from incompatible materials. Store closed containers in a cool, dry, well-ventilated area away from incompatible materials. This product is stable under normal conditions of handling and storage. Avoid cold temperatures. The recommended storage temperature is above 32°F, preferably at room temperature (70°F).Keep away from oxides of nitrogen, ammonia and carbon monoxide.

Specific End Use(s) The identified uses are in section 1 of this Safety Data Sheet.

SECTION 8: Exposure Controls/Personal Protection

Protective Equipment

Component	STD	TWA (8 Hrs)		STEL (15mins)		Notes
morpholine	OSHA	20 ppm	70 mg/m³			
2-diethylaminoethanol N,N- diethylethanolamine	OSHA	10 ppm	50 mg/m³			

Process Conditions Provide eyewash, quick drench.

Engineering Measures Provide adequate ventilation. Observe Occupational Exposure Limits and minimize the risk of inhalation of vapors. General mechanical ventilation is recommended for enclosed areas.

Respiratory Equipment In the case of inadequate ventilation use a NIOSH approved organic vapor respirator to reduce potential for inhalation exposure. When using respirator cartridges, they must be changed frequently to assure breakthrough exposure does not occur.

Hand Protection Wear approved safety goggles. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US).

Eye Protection To avoid contact with eyes, use safety glasses or chemical splash goggles. Face shield is recommended. Eye wash station should be available in the work area.

Hygiene Measures To avoid contact with eyes, use safety glasses or chemical splash goggles. Face shield is recommended. Eye wash station should be available in the work area.

SECTION 9: Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

Appearance	Clear, colorless to yellow liquid.
Color	Colorless
Odor	Ammonia
Odor Threshold - Lower	No Information available.
Odor Threshold - Upper	No Information available.
pH-Value, Conc. Solution	12.8
Melting point	25 °F
Initial boiling point and boiling range	210 °F
Flash point	No Information available.
Evaporation rate	No Information available.
Flammability State	No Information available.
Flammability Limit - Lower (%)	No Information available.
Flammability Limit - Upper (%)	No Information available
Vapor pressure	6.9 mm Hg
Vapor Density (air=1)	4
Relative density	0.98 @ 68 °F
Bulk Density	No Information available.
Solubility	Completely soluble in water.
Decomposition temperature	No Information available.
Partition coefficient; n-octanol/water	No Information available.
Auto Ignition Temperature (°C)	No Information available.
Viscosity	No Information available.
Explosive Properties	No information available.
Oxidizing properties	No Information available.
Molecular Weight	No Information available.
Volatile Organic Compound	No Information available.

SECTION 10: Stability and Reactivity

Reactivity	Reaction with: Strong oxidizing agents, strong acids, copper, aluminum and zinc.
Stability	This product is stable at ambient temperatures and atmospheric pressures.
Hazardous Polymerization	Hazardous polymerization is not expected to occur under normal temperatures and pressures.
Hazardous Decomposition Products	Hazardous decomposition can result in the release of oxides of ammonia, nitrogen and carbon monoxide.
Conditions to Avoid	Avoid exposing to heat and contact with strong oxidizing substances.
Materials to Avoid	Avoid contact with Strong oxidizing agents, strong acids, copper, aluminum and zinc. Do not mix with other chemicals unless listed on directions .Keep away from combustible materials.

SECTION 11: Toxicological Information

Toxicological Information No Information available. High oral doses have resulted in embryo and fetal toxicity and cyclohexylamine has caused fertility problems in mice, probably as a secondary effect from reduced body weights in the mothers.

Acute Toxicity (Oral LD50) >694 mg/kg Rat

Acute Toxicity (Dermal LD50) >293 mg/kg Rabbit
Acute Toxicity (Inhalation LD50) No Information available.

Skin Corrosion/Irritation No Information available.

Respiratory Sensitisation No Information available.
Skin Sensitization No Information available.
Reproductive Toxicity: No Information available.
Germ Cell Mutagenicity:
Geno toxicity - In Vitro
Geno toxicity - In Vivo

Carcinogenicity:
Carcinogenicity No Information available.
NTP - Carcinogenicity The product and its components are not listed.
OSHA - Carcinogenicity The product and its components are not listed.
IARC Carcinogenicity The product and its components are not listed.

Specific Target Organ Toxicity - Single Exposure:
STOT - Single Exposure No Information available.
Specific Target Organ Toxicity - Repeated Exposure:
STOT - Repeated Exposure No Information available.

Name	LD50 Oral	LD50 Dermal	LD50 Inhalation
cyclohexylamine	432. mg/kg Rat	275mg/k Rat	>700.00mg/m³ Rat 4 Hours
morpholine	1050 mg/kg Rat	1210 mg/kg Rabbit	>22.20mg/l (vapors) Rat 1 Hours
2-diethylaminoethanol N,N-diethylethanolamine	2460 mg/kg Rat	1260 mg/kg Rabbit	

SECTION 12: Ecological Information

Eco toxicity No Information available.

Acute Toxicity - Fish LC50 96 Hours >2000 ppm Onchorhynchus mykiss (Rainbow Trout)
Acute Toxicity - Aquatic Invertebrates LC50 48 Hours >225 ppm Daphnia magna
Acute Toxicity - Aquatic Plants EC50 72 Hours > 1900

Degradability No information available.

Bio accumulative Potential

Mobility No Information available.

Results of PBT and vPvB Assessment The product does not contain any PBT or vPvB Substances.

Other Adverse Effects No Information available.

Name	Acute Toxicity (Fish)	Acute Toxicity (Aquatic	Acute Toxicity (Aquatic Plants)
cyclohexylamine	LC50 =19 mg/l	EC50 48 Hours =36.30mg/l Daphnia magna	EC50 72 Hours =29.30mg/l Selenastrum Capricornutum
morpholine	LC50 96 Hours 400 mg/l		

SECTION 13: Disposal Considerations

Waste Management When handling waste, consideration should be made to the safety precautions applying to Handling of the product.

Disposal Methods Dispose of waste and residues in accordance with local authority requirements. Do NOT Dump into any sewers, on the ground or into any body of water. Rinse containers before disposal. Since emptied containers contain product residue, follow label warnings even after container is emptied.

SECTION 14: Transport Information

UN No. (DOT/TDG) 2920 - CORROSIVE LIQUID, FLAMMABLE, (cyclohexylamine, diethylaminoethanol)

UN No. (IMDG) 2920 - CORROSIVE LIQUID, FLAMMABLE, (cyclohexylamine, diethylaminoethanol)

UN No. (ICAO) 2920 - Corrosive liquid, flammable (cyclohexylamine, diethylaminoethanol)

DOR Proper Shipping Name CORROSIVE LIQUID, FLAMMABLE, (cyclohexylamine, diethylaminoethanol)

TDG Proper Shipping Name CORROSIVE LIQUID, FLAMMABLE, (cyclohexylamine, diethylaminoethanol)

DOT Hazard Class 8.0

DOT Hazard Label Class 8 - Corrosive

TDG Class 8.0

TDG Label(s) 8.0

IMDG Class 8

ICAO Class 8

Transport Labels

DOT Pack Group II

IMDG Pack Group II

Air Pack Group II

EMS F-E, S-C

Environmentally Hazardous Substance/Marine Pollutant No

SECTION 15: Regulatory Information

US Federal Regulations

SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities
The Following ingredients are listed cyclohexylamine

CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA)
The Following ingredients are listed

SARA Extremely Hazardous Substances EPCRA Reportable Quantities
The Following ingredients are listed cyclohexylamine

SARA 313 Emission Reporting
The Following ingredients are listed

CAA Accidental Release Prevention
The Following ingredients are listed

OSHA Highly Hazardous Chemicals
The Following ingredients are listed

US State Regulations

California Proposition 65 Carcinogens and Reproductive Toxins
The Following ingredients are listed

California Air Toxics "Hot Spots" (A-I)
The Following ingredients are listed

California Air Toxics "Hot Spots" (A-Ii)
The Following ingredients are listed

Massachusetts "Right To Know" List
The Following ingredients are listed cyclohexylamine
morpholine
2-diethylaminoethanol N,N-diethylethanolamine

Rhode Island "Right To Know" List
The Following ingredients are listed cyclohexylamine

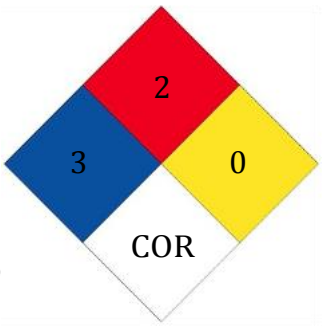
Minnesota "Right To Know" List
The Following ingredients are listed cyclohexylamine
morpholine
2-diethylaminoethanol N,N-diethylethanolamine

New Jersey "Right To Know" List
The Following ingredients are listed cyclohexylamine
morpholine
2-diethylaminoethanol N,N-diethylethanolamine

Pennsylvania "Right To Know" List
The Following ingredients are listed cyclohexylamine
morpholine
2-diethylaminoethanol N,N-diethylethanolamine

SECTION 16: OTHER INFORMATION

NATIONAL FIRE PROTECTION ASSOCIATION



(NFPA)

HAZARDOUS MATERIAL INFORMATION SYSTEM (HMIS)

Revision Comments

Revision Date 01/05/2015.

Revision 1

Disclaimer

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.